GB experience of estimating ‘The Costs to Britain of workplace injuries and work related ill health’

Heidi Edwards – Accounting for cases
Mike Zand – Attributing Costs

June 2014

Overview: Accounting for cases

1. History of Costs estimates in GB
2. What the current GB estimates show
3. Conceptual basis of GB cost estimates
4. Accounting for cases: Numbers and Severity;

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5. Handling uncertainty
6. Development work: Model for estimating costs of occupational cancer

Timeline of GB Costs estimate

1) Cost model evolved over time – approach dependent on available data. Non-financial costs have continued to be important component

Ongoing work to develop Cancer Cost model

2014

1969 | **1979** | **1990** | **1995/6** | **2000/1** | **2006/7 onwards**

----------Monetary value of individual's pain, grief and suffering ----------

Cases estimated from admin source

Household survey based estimates of non-fatal illness and injuries

(largely excludes cancer and other long latency illness)

Illness-Prescribed/ Compensated

Illness - Prevalence

Illness - Incidence

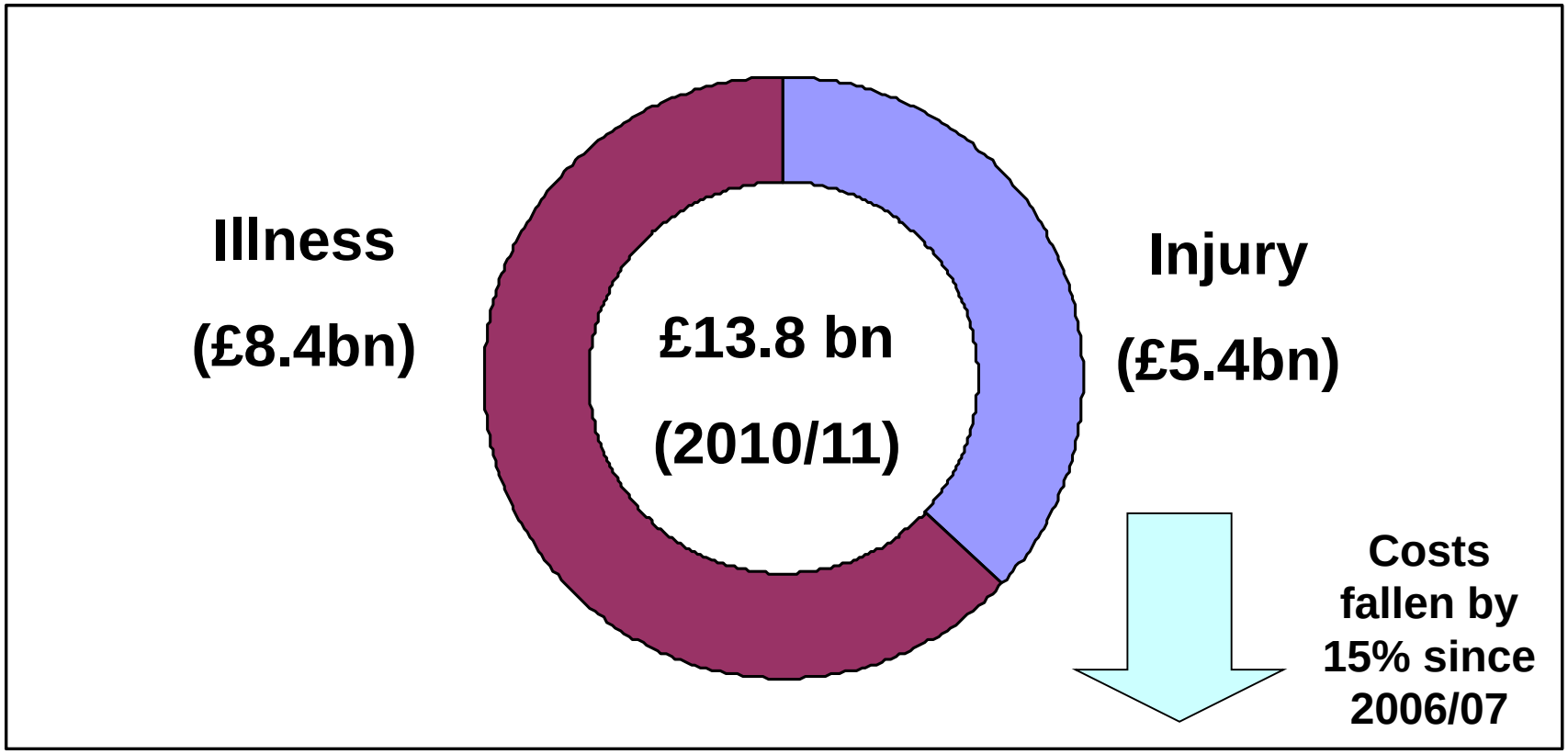
Includes non-injury accidents

Excludes non-injury accidents

Costs to individuals, employers and society

Plus costs to government

GB Estimate of the Costs of workplace injury and ill health (excluding long latency illness)



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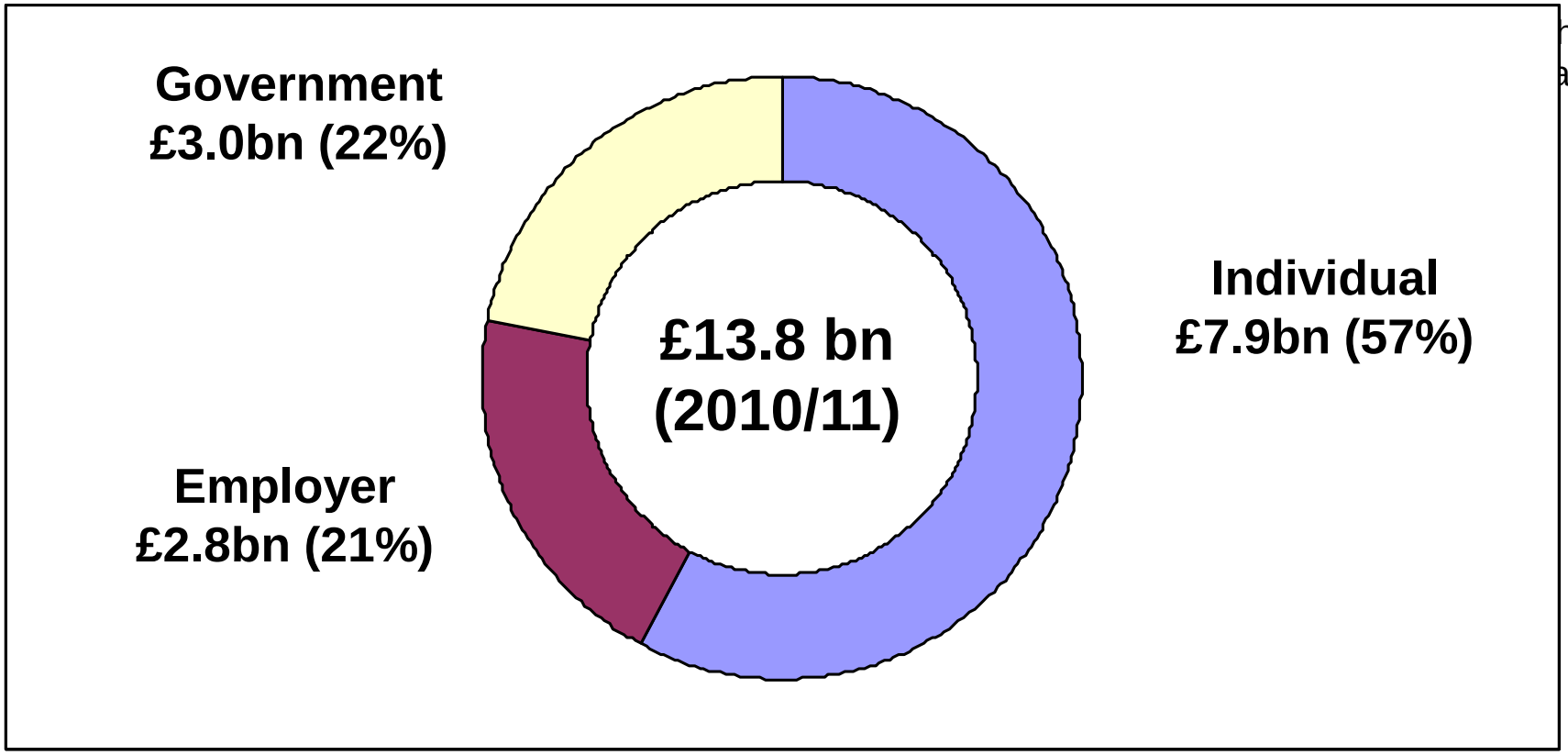
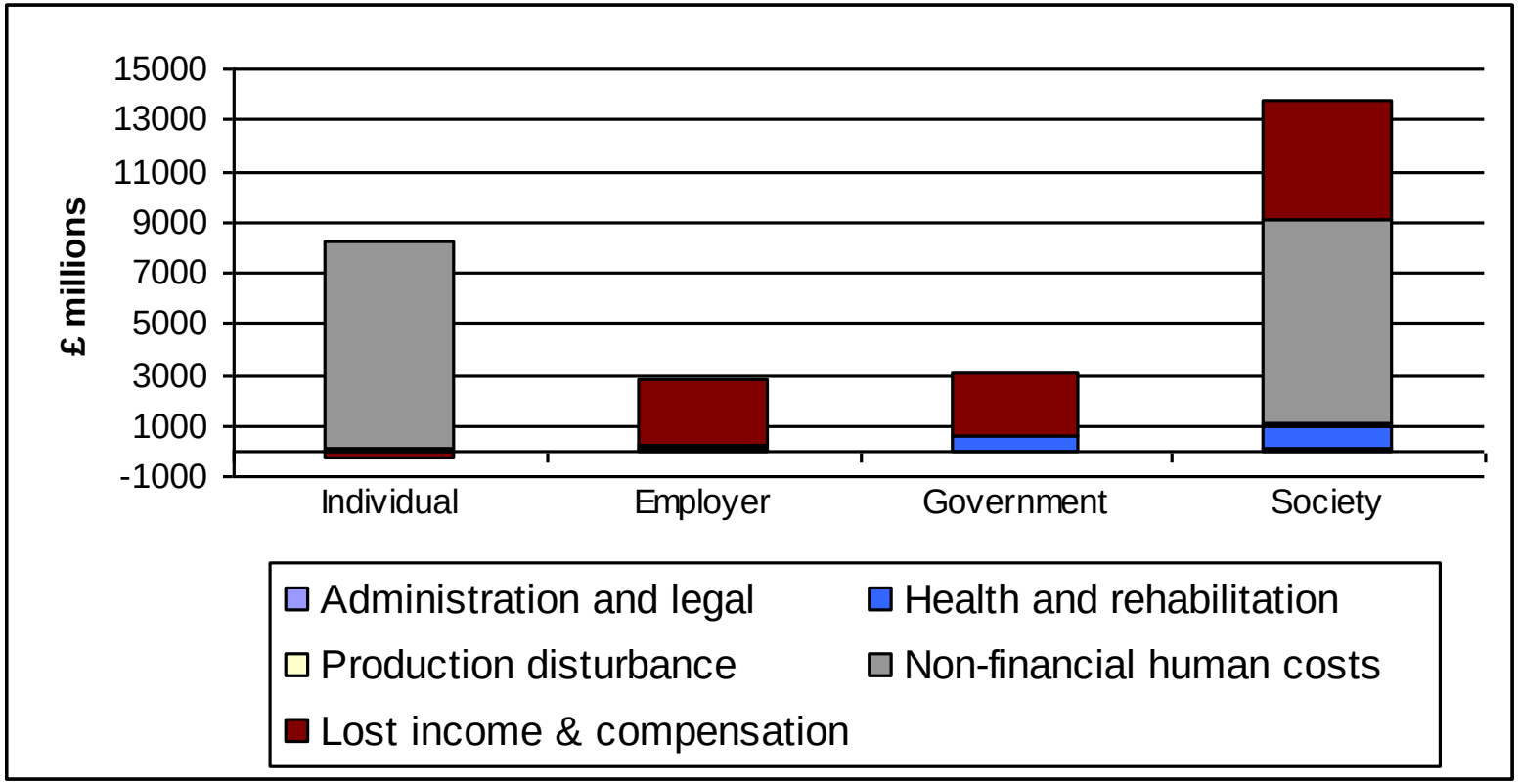


2) Costs to employers and government are significant and should be included where possible

GB Estimate of the Costs of workplace injury and ill health (excluding long latency illness) (2010/11)



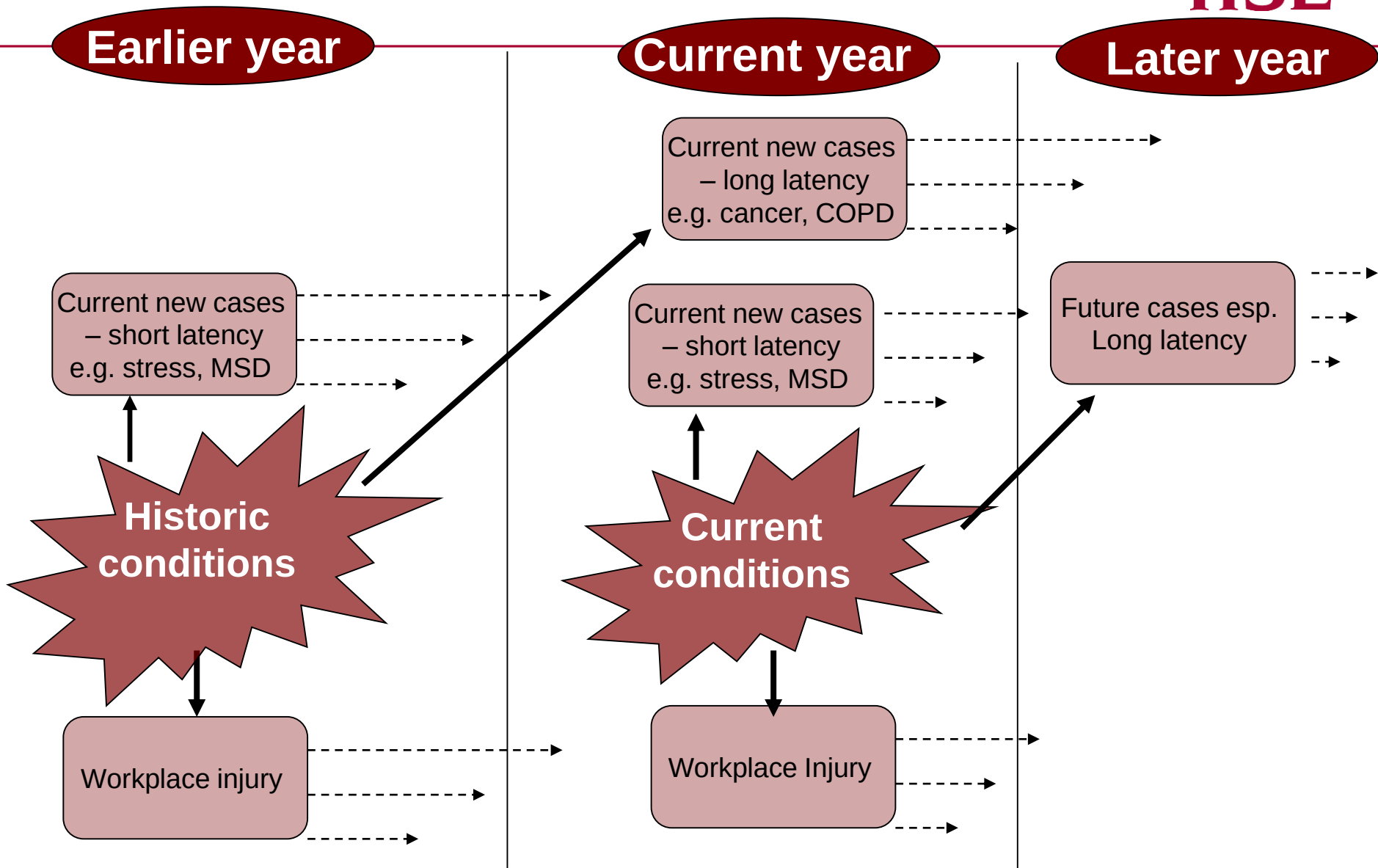
3) Lost output and non-financial costs account for ~ 90% of total costs and should be included in any cost model. Healthcare costs, accounting for ~ 6%, are less important by comparison. Insurance premiums (compensation) important cost component for employer (~50%)

GB Estimates of the Costs of workplace injury and ill health (excluding long latency illness) (2010/11)

	Unit Cost to Society
Fatal injury	£1,576,000
'Reportable' injury	£23,500
'Non-reportable' injury	£700
Ill health	£16,700

4) Unit costs, calculated by dividing the aggregate costs to society by the number of cases of new incidence cases, are important for *Cost Benefit Analysis*

Conceptual basis of GB Cost Estimates



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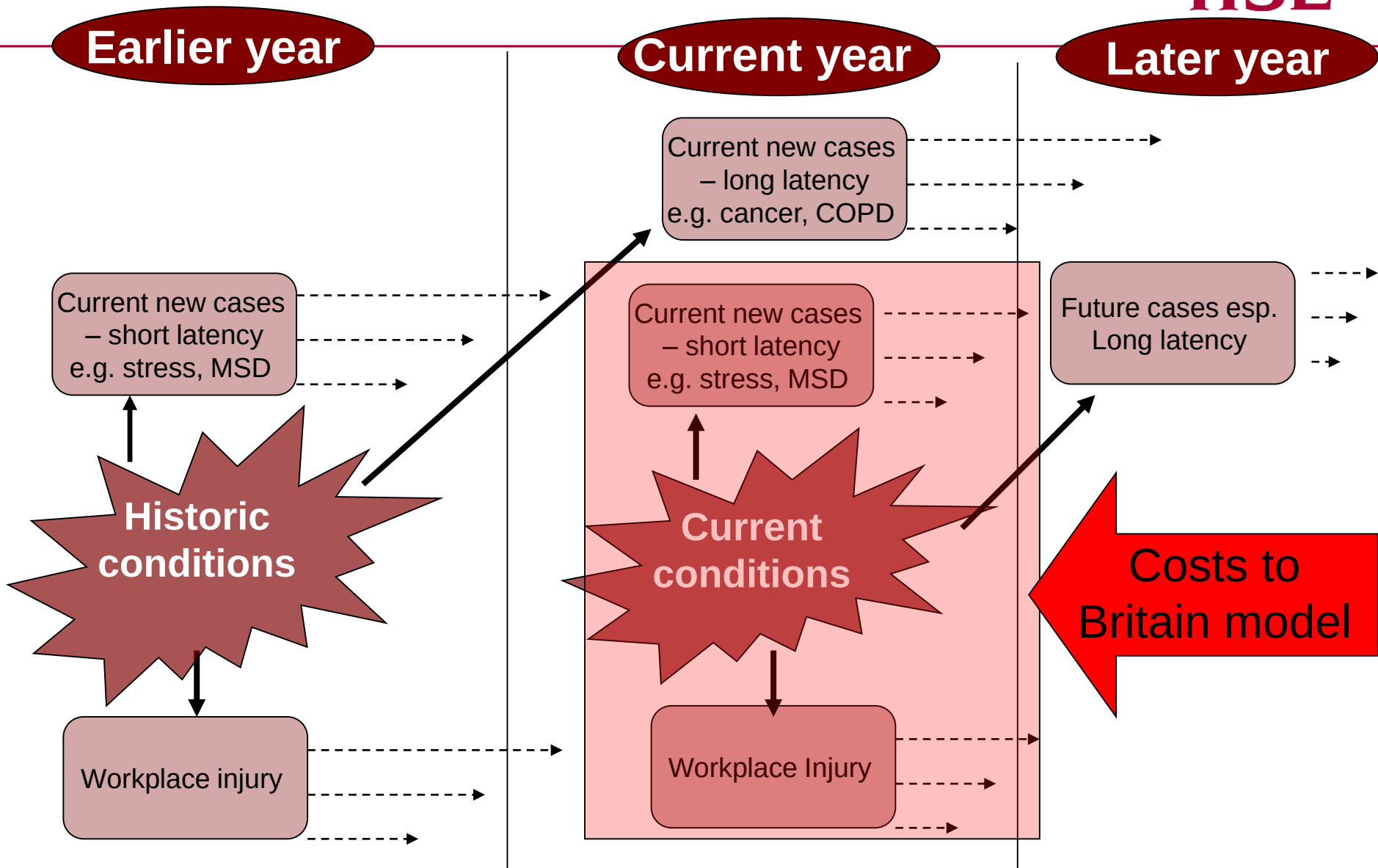
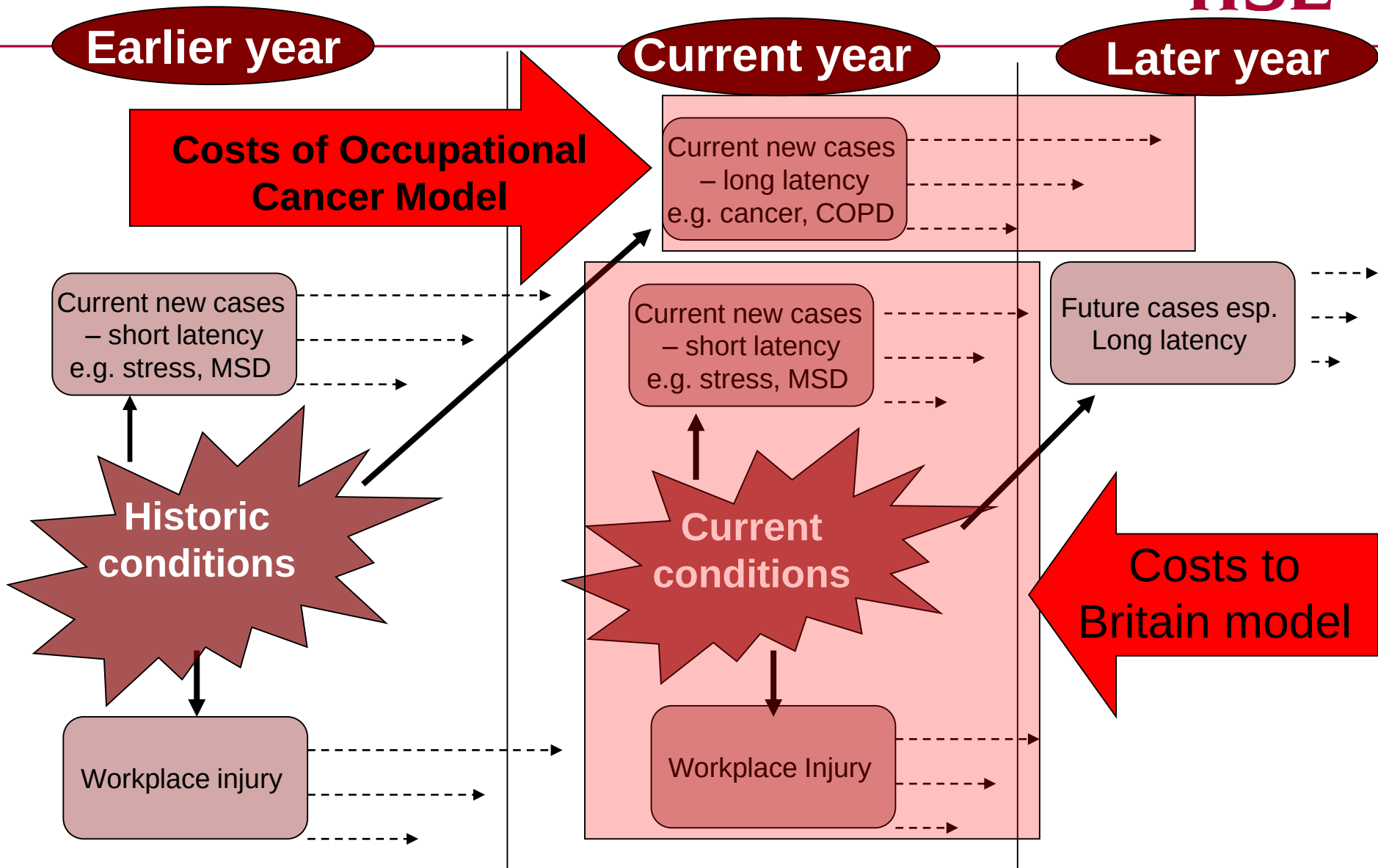


Conceptual basis of GB Cost Estimates

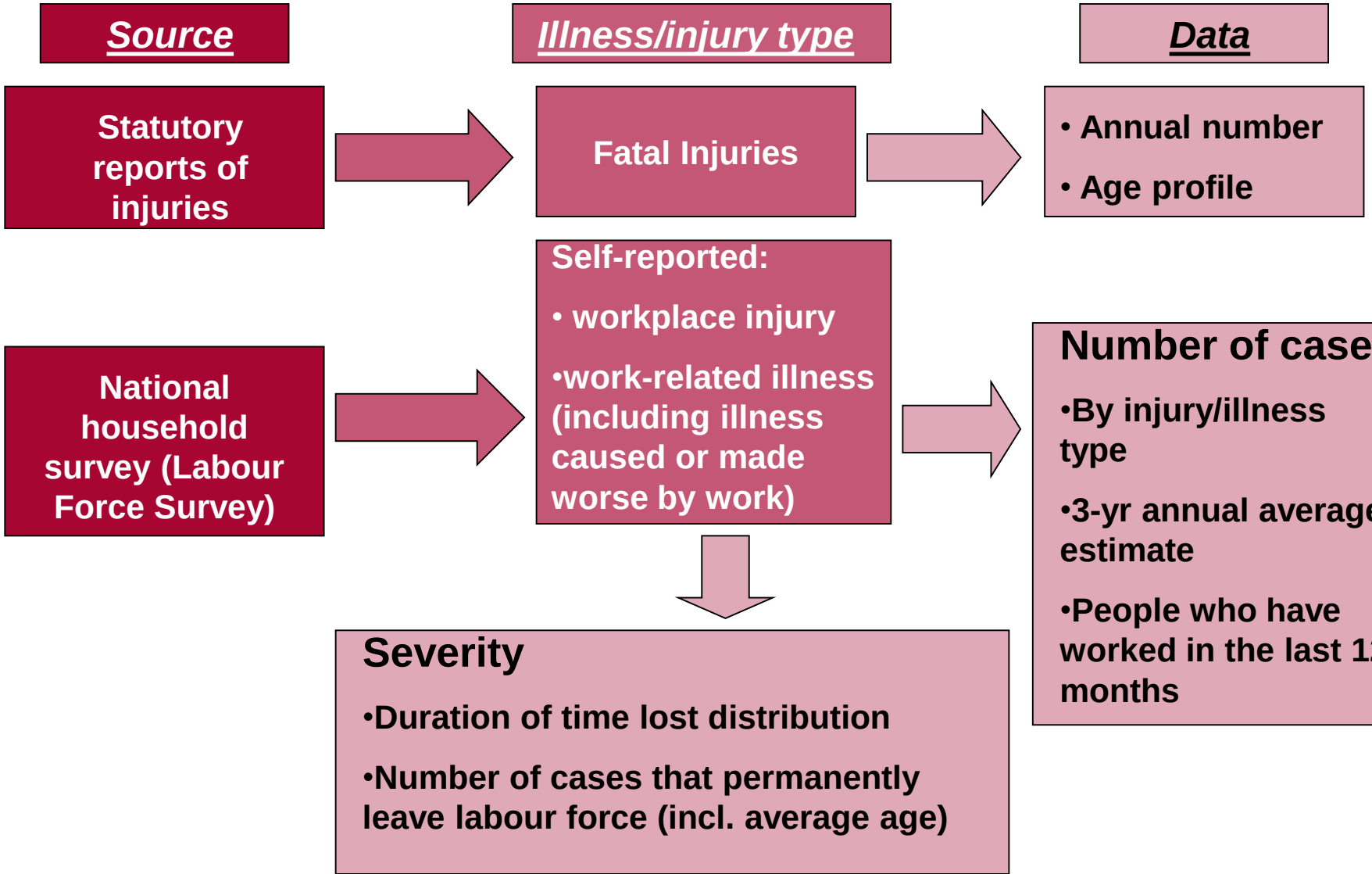


How are the costs estimated

- Mostly bottom-up approach (though some exceptions e.g. compensation)

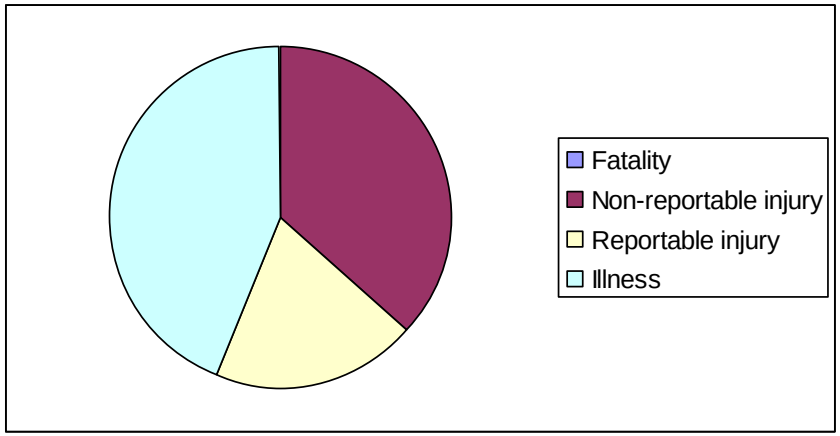
Total cost = $\sum$ (Number of Cases x unit cost)

Accounting for cases
Costs to Britain: Data Sources

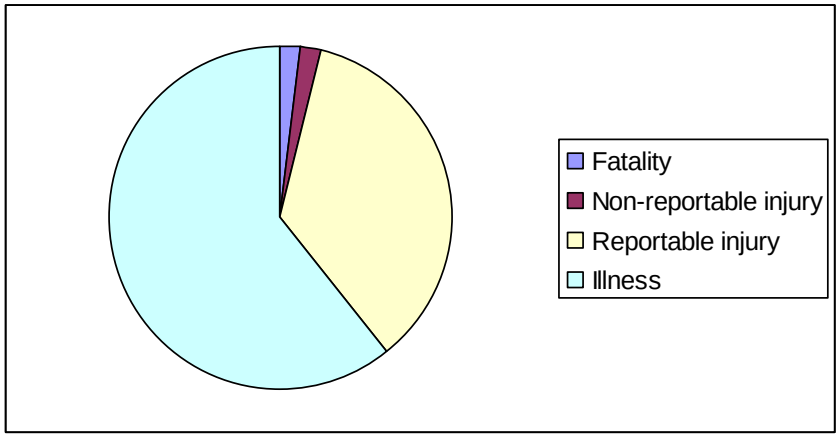


Cost by Incidence Type

Proportional breakdown of incidence by incidence type



Proportional breakdown of cost by incidence type



5) Minor injuries contribution to total costs is small (2%)

Accounting for non-fatal cases: Costs to Britain

Self-reported estimates from household survey (LFS)

HSE

Most comprehensive estimate of totality of workplace injury and illness

Not subject to the under-reporting seen in statutory schemes

Research confirms self-reports are broadly reliable

Includes employees and self-employed

Captures small-scale incidents

Estimates number withdrawing from labour market as result of illness or injury

Strengths

Using self-reported days lost from work, have an internal proxy measure for severity

Survey contains wealth of other labour force data e.g. industry, occupation, region of work

Annual data allows for annual cost updates

To best ***capture illness from current working conditions,*** illness estimate based on ***new*** cases to those who ***worked in last 12 months***

Accounting for non-fatal cases: Costs to Britain

Self-reported estimates from household survey (LFS)

HSE

Most comprehensive available estimate available, but still an undercount. Count of 'people' not 'cases'

Work related illness – Respondents record most serious illness over year

Estimating cases that result in permanent withdrawal from labour market

Model aims to estimate future costs arising from these injury and illness cases

Workplace Injury - Respondents record most recent injury in the year

Limitations

Due to lack of data, model does so ONLY for non-fatal cases that result in permanent withdrawal from labour market

Duration of absence used as proxy measure for severity

Particularly for illness, 12 month reference period may under-estimate the severity

Injury counts time off from accident till return to work

Difference in measuring duration of absence for illness and injury

Different groups will face different incentives for returning to work

Not a perfect proxy: Duration of absence does not always infer severity (e.g. limb fracture)

Illness counts total episodic duration over 12 months

Illness estimate includes cases both caused and made worse by work

Estimating cases which permanently withdraw from labour market ('Never returns')

Important subset of cases

– High associated costs (33% of total)

Estimate sourced from Labour Force Survey:

Self-reports (Estimate approx 16,000 cases per year)

→ Alternative source gives estimate of a similar order of magnitude

Incidence cases of 'Never Returns', based on injury incidence and illness prevalence

Question 'Do you expect to return to work in the future?'

→ Assuming a steady rate in terms of number of never returns over time, can assume estimate is a reasonable measure of 'never returns' from incidence cases, now and in the future

What do people interpret as 'return to work in the future'?

How reliable are people's assessment now for what may happen in the future?

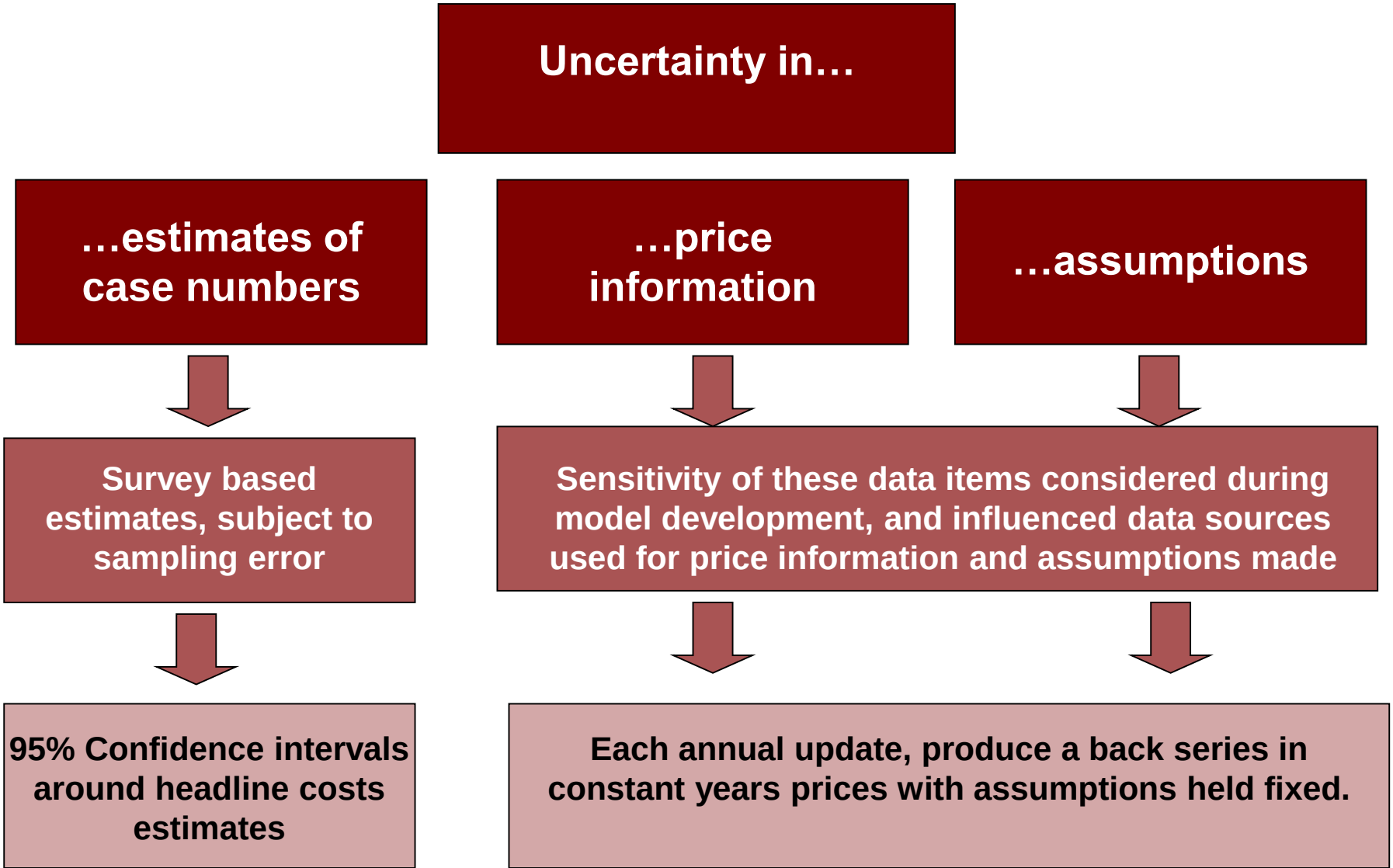
Some evidence that factors other than extent of disablement effect decision to withdraw from Labour market

Never Returns used as a ball park estimate – estimate held constant over time

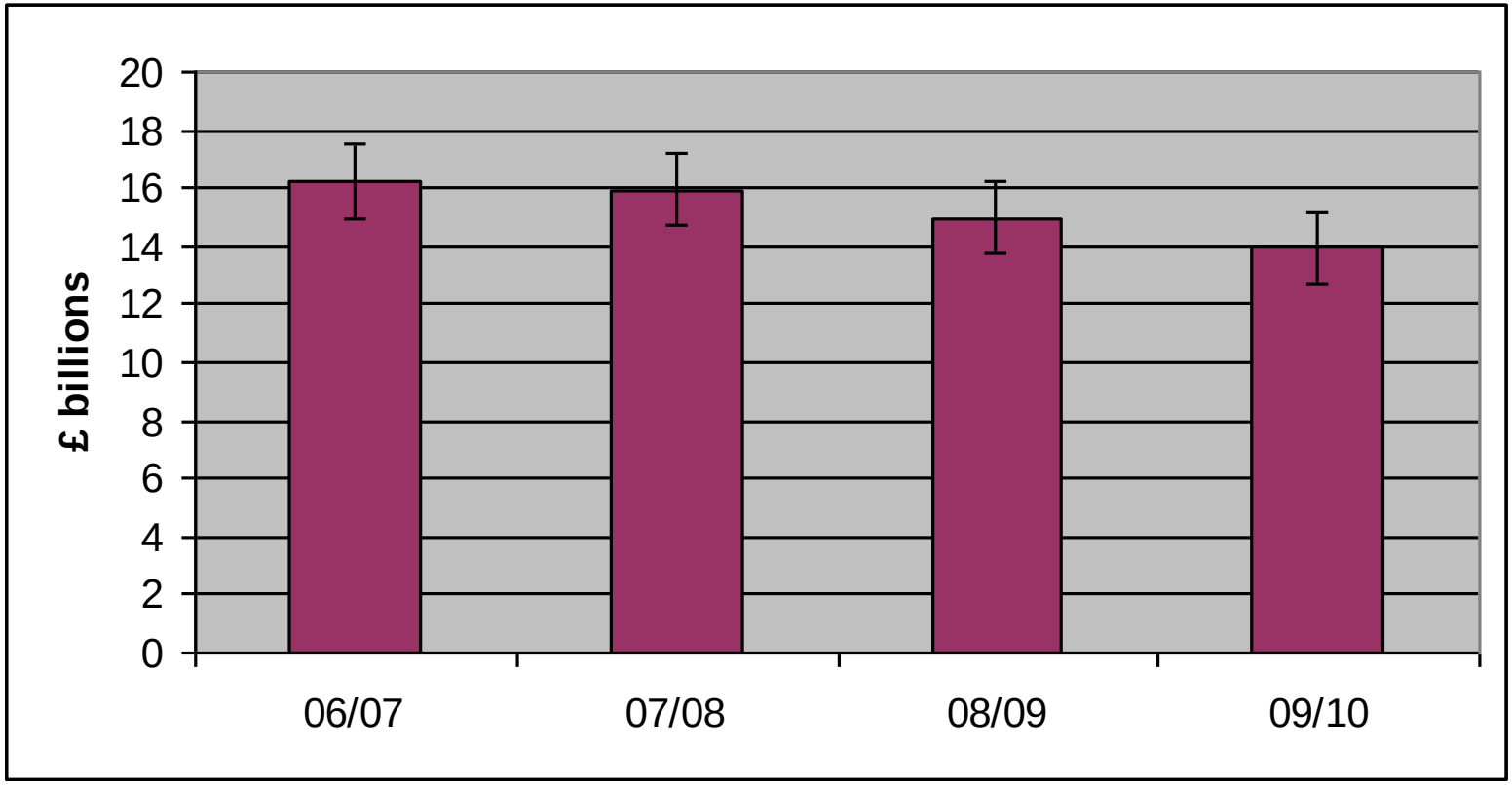
Use assumptions to apportion never returns by illness and Cannot disaggregate by illness type

Significant issue for estimating non-financial human costs

Accounting for uncertainty



Total Costs over time



Costs in 09/10 prices

Source: HSE Cost Model

Cost of Occupational Cancer – Development Work Ongoing

Case Estimation

- Made possible by GB Occupational Cancer Burden Study by Dr Lesley Rushton et al
- Attributable fraction approach to estimating occupational cancer registrations – separate estimates by cancer type
- Cases of mortality estimated from registration data by applying survival rates

Model Issues

- Model uses similar framework to Costs to Britain model
- Potential for Cancer Cost model framework to be applied to other long latency conditions
- Particular challenge in estimating non-financial human costs

Cost Estimates

- Expect costs to be substantial
- Unit costs expected to be high in comparison to unit costs for average ill health
- Cancer cost estimates conceptually different from Costs to Britain due to latency effect